AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1.-53. (Cancelled)

54. (New) A dendritic polymer of generation n comprising:

- a central core § of valence m ;

- optionally, generation chains branching around the core;

- an intermediate chain at the end of each generation chain that is present, or at the end of each bond around the core, where appropriate; and

- a terminal group at the end of each intermediate chain,

wherein said terminal group is represented by the formula:

$-(A1)<[A2-P(=O)(OX)_2]_2$ (T)

wherein

-A1< represents the radical -CR< or –Heteroatom< ;

the radicals A2, which are identical or different, each independently of the other represents a single bond or a linear or branched hydrocarbon chain having from 1 to 6 chain members, each of said chain members optionally being selected from a heteroatom, each chain member being optionally substituted by one or more substituents selected from -Alkyl, -Hal, $-NO_2$, -NRR', -CN, $-CF_3$, -OH, -OAlkyl, -Aryl, and -Aralkyl;

R and R', which are identical or different, each independently of the other represents a hydrogen atom or a radical –Alkyl, -Aryl, or -Aralkyl;

X represents a radical –alkyl, -Aryl, -H or /M^+, where M is a cation,

m represents an integer greater than or equal to 1;

n represents an integer from 0 to 12; and

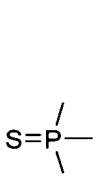
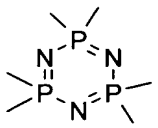
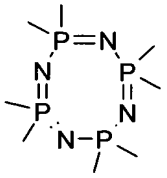
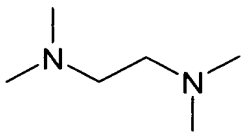
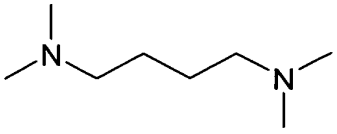
< represents two bonds situated on A1.

55. (New) A dendritic polymer according to claim 54, having a structure of the DAB, PAMAM or PMMH type.

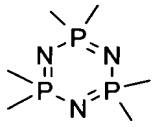
56. (New) A dendritic polymer according to claim 54, wherein A1 represents the radical –CH< or –N<.

57. (New) A dendritic polymer according to claim 54, wherein A2 represents –Me-.

58. (New) A dendritic polymer according to claim 54, wherein the central core § is selected from the following groups:

59. (New) A dendritic polymer according to claim 54, wherein the central core § has the formula:



60. (New) A dendritic polymer according to claim 54, wherein m represents an integer from 1 to 8.

61. (New) A dendritic polymer according to claim 54, wherein m is selected from 3, 4 and 6.

62. (New) A dendritic polymer according to claim 54, wherein n is from 0 to 3.

63. (New) A dendritic polymer according to claim 54, wherein the generation chains are selected from linear and branched hydrocarbon chains having from 1 to 12 chain members and optionally having one or more double or triple bonds, each of said chain members optionally being selected from a heteroatom, a group Aryl, Heteroaryl, >C=O, and >C=NR, each chain member being optionally substituted by one or more substituents selected from -Alkyl, -Hal, $-NO_2$, -NRR', -CN, $-CF_3$, -OH, -OAlkyl, -Aryl, and -Aralkyl,

wherein

R and R', which are identical or different, each independently of the other represents a hydrogen atom or a radical -Alkyl, -Aryl, or -Aralkyl.

64. (New) A dendritic polymer according to claim 54, wherein the generation chains, which are identical or different, are represented by the formula:

-A-B-C(D)=N-N(E)-(P(=G))< (C1)

wherein:

A represents an oxygen, sulfur or phosphorus atom or a radical -NR-;

B represents a radical -Aryl-, -Heteroaryl-, or -Alkyl-, each of which is optionally substituted by a Halogen atom or by a radical $-NO_2$, -NRR', -CN, $-CF_3$, -OH, -Alkyl, -Aryl, or -Aralkyl;

C represents a carbon atom,

D and E, which are identical or different, each independently of the other represents a hydrogen atom, or a radical -Alkyl, -OAlkyl, -Aryl, or -Aralkyl, each of which is optionally substituted by a Halogen atom or by a radical $-NO_2$, -NRR', -CN, $-CF_3$, -OH, -Alkyl, -Aryl, or -Aralkyl;

G represents a sulfur, oxygen, nitrogen, Selenium or Tellurium atom or a radical =NR;

N represents a nitrogen atom; and

P represents a phosphorus atom.

65. (New) A dendritic polymer according to claim 64, wherein in formula C1 A represents an oxygen atom.

66. (New) A dendritic polymer according to claim 64, wherein B represents an optionally substituted phenyl radical.

67. (New) A dendritic polymers according to claim 64, wherein D represents an oxygen atom.

68. (New) A dendritic polymer according to claim 64, wherein E represents a radical –Alkyl.

69. (New) A dendritic polymer according to claim 64, wherein G represents a sulfur atom.

70. (New) A dendritic polymer according to claim 54, wherein the generation chains are represented by the formula:

-A'-(C=O)-N(R)-B'-N< (C1')

wherein

A' and B' each independently of the other represents a radical -Alkyl, -Alkenyl, or -Alkynyl, each of which is optionally substituted by one or more substituents selected from -Alkyl, -Hal, $-NO_2$, -NRR', -CN, $-CF_3$, -OH, -OAlkyl, -Aryl, and -Aralkyl; and

R and R' have the meanings defined in claim 54.

71. (New) A dendritic polymer according to claim 70, wherein A' and B' each independently of the other represents a radical –Alkyl-.

72. (New) A dendritic polymer according to claim 54, wherein the generation chains are represented by the formula:

-A''-N< (C1'')

wherein

A'' represents a radical -Alkyl, -Alkenyl, or -Alkynyl, each of which is optionally substituted by one or more substituents selected from -Alkyl, -Hal, $-NO_2$, -NRR', -CN, $-CF_3$, -OH, -OAlkyl, -Aryl, and -Aralkyl, wherein R and R' have the meanings defined in claim 54.

73. (New) A dendritic polymer according to claim 72, wherein A'' represents an optionally substituted radical –Alkyl-.

74. (New) A dendritic polymer according to claim 54, wherein the intermediate chains are selected from linear and branched hydrocarbon chains having from 1 to 12 chain members and optionally having one or more double or triple bonds, each of said chain members optionally being selected from a heteroatom, a group Aryl, Heteroaryl, >C=O, and >C=NR, each chain member being optionally substituted by one or more substituents selected from -Alkyl, -Hal, $-NO_2$, -NRR', -CN, $-CF_3$, -OH, -OAlkyl, -Aryl, and -Aralkyl,

wherein R and R' have the meanings as defined in claim 54.

75. (New) A dendritic polymer according to claim 54, wherein the intermediate chains are represented by formula:

-J-K-L- (C2)

wherein

J represents an oxygen atom, a sulfur atom or a radical -NR-;

K represents a radical -Aryl-, -Heteroaryl-, or -Alkyl-, each of which is optionally substituted by a Halogen atom or by a radical $-NO_2$, -NRR', -CN, $-CF_3$, -OH, -Alkyl, -Aryl, or -Aralkyl;

L represents a linear or branched hydrocarbon chain having from 1 to 6 chain members and optionally having one or more double or triple bonds, each of said chain members optionally being a heteroatom, each chain member being optionally substituted by one or more substituents selected from -Alkyl, -Hal, $-NO_2$, -NRR', -CN, $-CF_3$, -OH, -OAlkyl, -Aryl, and -Aralkyl,

wherein R and R' have the meanings defined in claim 54.

76. (New) A dendritic polymer according to claim 75, wherein J represents an oxygen atom.

77. (New) A dendritic polymer according to claim 75, wherein K represents an optionally substituted –Phenyl- radical.

78. (New) A dendritic polymer according to claim 75, wherein L represents a radical $-(Alk)_a-$ or the radical $-C(D)=N-N(E)-(Alk)_a-$.

79. (New) A dendritic polymer according to claim 54, wherein the intermediate chains are represented by formula

-A'-(C=O)-N(R)-B'- (C2')

wherein A' and B' each independently of the other represents a radical –Alkyl, -Alkenyl, or –Alkynyl, each of which is optionally substituted by one or more substituents selected from –Alkyl, -Hal, $-NO_2$, -NRR', -CN, $-CF_3$, -OH, -OAlkyl, -Aryl, and –Aralkyl; and

R and R' have the meanings defined in claim 54.

80. (New) A dendritic polymer according to claim 54, wherein the intermediate chains are represented by formula

-A''- (C2'')

wherein

A'' represents a radical -Alkyl, -Alkenyl, or -Alkynyl, each of which is optionally substituted by one or more substituents selected from -Alkyl, -Hal, $-NO_2$, -NRR', -CN, $-CF_3$, -OH, -OAlkyl, -Aryl, and -Aralkyl; and

R and R' have the meanings defined in claim 54.

81. (New) A dendritic polymer according to claim 54, wherein M^+ represents a cation of an element of group IA, IIA, IIB or IIIA of the periodic table or a cation of a nitrogen-containing base.

82. (New) A dendritic polymer according to claim 54, wherein M is selected from the atoms sodium and potassium.

83. (New) A dendritic polymer according to claim 54, wherein the generation chains are identical.

84. (New) A dendritic polymer according to claim 54, wherein in formulae (C1) and (C2), J and K are equal to A and B, respectively.

85. (New) A dendritic polymer according to claim 54, which is represented by the following formula (I):

§-{{A-B-C(D)=N-N(E)-(P(=G))<}^{n}[J-K-$(Alk)_a$-N<[A2-P(=O)$(OX)_2]_2]_2\}_m$ (I-1i)

in which:

§, A, B, C, D, E, G, N, P, J, K, X, A2, m, and n have the meanings defined above, {}^{n} denotes the branched structure of the generation n chains of said dendritic polymer, and a represents 0 or 1.

86. (New) A dendritic polymer according to claim 54, which is represented by the following formula (I-1ii):

§-{{A-B-C(D)=N-N(E)-(P(=G))<}^{n}[J-K-C(D)=N-N(E)-$(Alk)_a$-CH<[A2-P(=O)$(OX)_2]_2]_2\}_m$ (I-1ii)

in which:

§, A, B, C, D, E, G, N, P, J, K, X, A2, m, and n have the meanings defined above, {}^{n} denotes the branched structure of the generation n chains of said dendritic polymer, and a represents 0 or 1.

87. (New) A dendritic polymer according to claim 54, which is represented by the following formula (I-2):

§-{{A'-(C=O)-N(R)-B'-N<}^{n} [A2-P(=O)(OX)$_2$]$_2$]$_2$}$_m$ (I-2)

in which:

§, A', B', C, N, P, X, A2, m, and n have the meanings defined above and {}^{n} denotes the branched structure of the generation n chains of said dendritic polymer.

88. (New) A dendritic polymer according to claim 54, which is represented by the following formula (I-3):

§-{{A''-N<}^{n} [A2-P(=O)(OX)$_2$]$_2$]$_2$}$_m$ (I-3)

in which:

§, A'', N, P, X, A2, m, and n have the meanings defined in above and {}^{n} denotes the branched structure of the generation n chains of said dendritic polymer.

89. (New) A method for preparing a dendritic polymer according to claim 54, comprising:

(i) reacting the corresponding dendritic polymer having a terminal function -CHO, -CH=NR, -NH$_2$ or -P(=G)Cl$_2$

with a corresponding compound having one or two functionalities -PO$_3$X$_2$;

(ii) optionally followed, when X represents H or M, by a step which comprises converting the dendritic polymer obtained in (i) having a -PO$_3$Me$_2$ termination into the corresponding dendritic polymer having an -A1<[A2-P(=O)(OH)$_2$]$_2$ termination,

(iii) optionally followed, when X represents M, by a step which comprises converting the dendritic polymer obtained in (ii) having an -A1<[A2-P(=O)(OH)$_2$]$_2$

termination into the salt of the corresponding dendritic polymer having an -A1<[A2-$P(=O)(OM)_2]_2$ termination.

90. (New) A method for preparing a dendritic polymer according to claim 89, wherein, when the dendritic polymer according to the invention is represented by the formula (I-1i)

§-{{A-B-C(D)=N-N(E)-(P(=G))<}^{n}[J-K-$(Alk)_a$-N<[A2-$P(=O)(OX)_2]_2]_2\}_m$ (I-1i)

in which §, A, B, C, D, E, G, N, P, J, K, A2, Alk, X, a, m, n, and < have the meanings defined above,

step (i) comprises reacting with the corresponding dendritic polymer of the same generation n of the formula

§-{{A-B-C(D)=N-N(E)-(P(=G))<Y_2}^{n} (II-1i)

wherein Y represents -Cl;

a compound of formula H-J-K-$(Alk)_a$-N<[A2-$P(=O)(OX)_2]_2$ (III).

91. (New) A method according to claim 90, wherein the reaction is carried out in solution in a polar aprotic solvent, in the presence of an organic or inorganic base, at a temperature of from -80°C to 100°C.

92. (New) A method according to claim 89, wherein, when the dendritic polymer according to the invention is represented by formula (I-2) or (I-3):

§-{{A'-(C=O)-N(R)-B'-N<}^{n} [A2-$P(=O)(OX)_2]_2]_2\}_m$ (I-2)

or

§-{{A''-N<}^{n} [A2-$P(=O)(OX)_2]_2]_2\}_m$ (I-3)

in which §, A', A", B', B", C, N, P, A2, X, m, n, and < have the meanings defined above, step (i) comprises reacting with the corresponding dendritic polymer of the same generation n of formula

$§-\{\{A'-(C=O)-N(R)-B'-NH_2\}^n\}_m$ (II-2)

or

$§-\{\{-A''-NH_2\}^n\}_m$ (II-3)

a compound of the formula $H-P(=O)(OX)_2$ (IV) ,

in the presence of a corresponding compound H-A2-(C=O)H.

93. (New) A method according to claim 92, wherein the reaction is carried out at a temperature of from -5°C to the reflux temperature of the mixture.

94. (New) A method according to claim 89, wherein, when the dendritic polymer according to the invention is represented by formula (I-1ii)

$§-\{\{A-B-C(D)=N-N(E)-(P(=G))<\}^n[J-K-C(D)=N-N(E)-(Alk)_a-CH<[A2-P(=O)(OX)_2]_2]_2\}_m$ (I-1ii)

in which:

§, A, B, C, D, E, G, N, P, J, K, L, X, A2, m, n, and a have the meanings defined above,

step (i) comprises reacting with the corresponding dendritic polymer of formula

$§-\{\{A-B-C(D)=N-N(E)-(P(=G))<\}^n-[J-K-L']_2\}_m$ (II-1ii)

wherein L' represents a radical -CHO ;

a compound of formula $(Alk')_a$-CH-[A2-P(=O)$(OX)_2$] (VI)

wherein Alk' corresponding to Alk defined above in formula (I-1ii) represents a radical Alkenyl, and X has the meaning defined above, in the presence of a compound of formula

H_3C-NH-NH_2 (VII).

95. (New) A method according to claim 94, wherein the reaction is carried out in a polar aprotic solvent medium, by addition of the compounds (VI) and (VII) to the dendritic polymer (II-1ii) at a temperature of from -80°C to 100°C.

96. (New) A method for preparing a dendritic polymer according to claim 89, wherein step (ii) is carried out:

- by the action of a trimethylsilane halide,
- followed by the action of anhydrous MeOH, which is added to the reaction mixture.

97. (New) A method according to claim 96, wherein the procedure is carried out in a polar aprotic organic solvent by addition of the trimethylsilane halide while keeping the reaction mixture at a temperature of from -80°C to 50°C.

98. (New) A method for preparing a dendritic polymer according to claim 89, wherein in step (iii) a salt of a compound according to the invention is obtained starting from a compound according to the invention having a terminal group in which X represents a hydrogen atom.

99. (New) A method for preparing a dendritic polymer according to claim 98, wherein the procedure is carried out in solution, in a suitable polar protic or aprotic solvent, in the presence of an organic or inorganic base, depending on the salt that is desired.

100. (New) A compound of formula (III):

$H\text{-}J\text{-}K\text{-}(Alk)_a\text{-}N<[A2\text{-}P(=O)(OX)_2]_2$ (III)

in which

X represents a radical –Alkyl, -Aryl, H or M^+, wherein M^+ is a cation;

J represents an oxygen atom, a sulfur atom or a radical -NR-;

K represents a radical -Aryl-, -Heteroaryl-, or -Alkyl-, each of which is optionally substituted by a Halogen atom or by a radical $-NO_2$, -NRR', -CN, $-CF_3$, -OH, -Alkyl, -Aryl, or -Aralkyl ;

the radicals A2, which are identical or different, each independently of the other represents a single bond or a linear or branched hydrocarbon chain having from 1 to 6 chain members, each of said chain members optionally being selected from a heteroatom, preferably nitrogen, each chain member being optionally substituted by one or more substituents selected from -Alkyl, -Hal, $-NO_2$, -NRR', -CN, $-CF_3$, -OH, -OAlkyl, -Aryl, and -Aralkyl;

-Alk- represents an alkyl radical; and

a represents 0 or 1.

101. (New) A method for preparing a compound of formula (III) according to claim 100, comprising the following step:

$H\text{-}J\text{-}K\text{-}(Alk)_a\text{-}NH_2$ (VIII) + $H\text{-}A2'\text{-}(C{=}O)H$ (V) + $H\text{-}P(=O)(OX)_2$ (IV)

$\rightarrow$ $H\text{-}J\text{-}K\text{-}(Alk)_a\text{-}N<[A2\text{-}PO_3X_2]_2$ (III)

wherein, in formula (V), -A2'- is a radical corresponding to A2.

102. (New) A method according to claim 101, wherein the procedure is carried out by addition of the compounds (VIII) and (IV), and of the compound (V), at a temperature of from –5 to 25°C.

103. (New) A method for treating or being in contact with surfaces comprising using a dendritic polymer according to claim 54.

104. (New) A method according to claim 103, wherein said surfaces are metal, silica-based or oxide-based.

105. (New) A method according to claim 103, wherein said dendritic polymer is used as an additive in a composition that is to be in contact with or to treat said surface.

106. (New) A method according to claim 103, wherein said dendritic polymer is used as an anti-corrosive agent, a lubricating agent, a scale preventer or as a flame retardant.